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Chemical Weapons Disposal Issue and Citizens' Participation:

A Sociological Viewpoint

Richard Futrell PhD.
Assistant Professor of Sociology
Eastern Kentucky University
Richmond, Kentucky

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KENTUCKY ENVIRONMENTAL FOUNDATION
P.O. Box 467
Berea, KY 40403
606-986-7565

Kentucky Environmental Foundation (KEF) is a non-profit public corporation dedicated to educating citizens about environmental issues. Our primary mission is to improve access to information, promote communication and foster cooperation between government and citizens on matters concerning the environment.

KEF is the democratically-elected lead organization of the Chemical Weapons Working Group (CWWG), a coalition of grassroots organizations in the US, the Pacific and Russia who work toward safe disposal of chemical weapons.

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I

Introduction

A number of important currents in the flow of modern society have merged to create the necessity of disposing of chemical weapons stockpiles in the United States and Russia. The major currents include:

- international agreements to destroy existing chemical weapons stockpiles;
- the long established and more general disarmament negotiations from which these agreements emerged;
- a Congressional mandate that directed the Army to destroy all unitary chemical weapons before developing a binary chemical weapons program; concerns of people residing around chemical weapons storage facilities anxious for the removal of the weapons one way or another;
- industrial promotion of disposal technologies (especially incineration);
- regulations of the Environmental Protection Agency (EPA); and
- bureaucratic, political and economic interests of many state and local governments.

Given the merger of these currents the next move seems to be a straightforward matter--construct disposal facilities and proceed. However, the disposal of chemical weapons has not been a straightforward matter.

Attempts to implement **incineration** as the disposal solution have raised a multitude of contentious issues. A strong political opposition to the Army's choice of incineration as the disposal option has been mounted by local residents. Residents claim that local stakes such as public health and safety interests have not been adequately taken into account in the ranking and selection of issues related to the need to dispose or in the definition of problems related to the solution. The major claim of local stakeholders is that because their interests were not adequately taken into account, these interests did not play a forceful part in shaping the subsequent technological choices. There is little wonder that significant conflict has emerged over the attempts to impose solutions that local stakeholders view as dangerous to their interests.

The specific conflicts arising from issues related to the disposal of chemical weapons are extensively tied to other problems of toxic waste generated by modern industrial society. The policies developed to deal with our toxic legacies play a significant role in shaping the future course of human societies. The actions taken to dispose of chemical weapons will contribute significantly to how problems of all toxic wastes are defined and resolved. The contention of this paper is that

moving forward with incineration as a disposal technology is a continuation of dangerous choices made in the past, a dangerous choice in this instance and a dangerous precedent for the future. The political process through which incineration was chosen has damaged the process of democratic governance.

The significance of public safety, public health and political dangers created by incineration technology make the problems of starting over with the process of choosing chemical weapons disposal technologies worth the financial cost and the considerable public effort involved. This new start must be undertaken in order to make a new choice of a disposal technology. The new choice must be one that is mutually agreeable both to the local communities who have to live with the risks and hazards of disposal technologies and to the Chemical Stockpile Disposal Program (CSDP) which has the mission of disposing of the stockpile. A mutually agreeable choice requires that local citizens must be **effectively incorporated** into:

- the process of problem definition;
- the choice of solutions; and
- the implementation of the decisions that are reached.

Starting over with defining the problems raised by the necessity of chemical weapons disposal is an opportunity to establish democratic decision-making processes that can be used in finding solutions to the critical issue of disposing of all the toxic wastes created by modern industrial society.

II

Military Toxic Waste and Chemical Weapons Disposal in the "Risk Society"

The confluence of an increasing rate of waste accumulation, the decreasing availability of long established options for dealing with the accumulation and the inadequate scientific understanding of long-term health effects of toxins led to significant economic and political pressure on public officials in the 1970s to develop new solutions for the problems of waste. This pressure was particularly intense for the military. The extent of the military's accumulation of toxic waste is astounding and the problem of what to do about it is, to say the least, daunting. The National Toxics Campaign Fund (Seigel, 1991) notes that with the end of the Cold War

...the American military [has entered] a new era. The Soviet Union is no longer our chief national security threat. Increasingly, threats to our national security derive from problems of economic and environmental imbalances.

...The Cold War's chemicals which permeate our environment include industrial solvents, paints and dyes, fuels and propellants, acids, pesticides, herbicides (containing dioxins), heavy metals, PCBs (polychlorinated biphenyls formerly used in transformers), photographic chemicals, refrigerants, asbestos, cyanide and medical wastes. ...Some installations also contain wastes peculiar to military arsenals and ranges, such as nerve gas and unexploded artillery shells...

Virtually every major military installation in the U.S., as well as numerous minor facilities and former bases, has caused extensive environmental contamination. The known extent of DOD's (Department of Defense) toxic legacy continues to grow. DOD owns 3,874 properties in the U.S. and its territories, including 871 major military installations. As of September 30, 1986, DOD had identified 3,526 "potentially contaminated" sites at 529 locations. Three years later, the total stood at 14,401 at 1,579 locations (pp. 1-2).

Among the many problems of toxic waste the military must deal with is its stockpile of obsolete chemical weapons. Prior to 1969 the military's normal practices for disposing of obsolete weapons, including chemical weapons, consisted of land burial, open-pit burning and deep ocean dumping. Due to the environmental concerns of citizens and subsequent Congressional actions, most of these practices were halted.

Definition of the military's mission of handling their waste situation and identification of ways to solve the problem of chemical weapons disposal emerged from a number of sources, some internal

to the military and some external. Particularly important were various national and international discussions, negotiations and agreements. These included:

- the placement of chemical weapons disarmament on the agenda of the United Nations in the late 1960s and early 1970s;
- a commitment through the Biological Weapons Convention of the early 1970s to work toward prohibition and destruction of all chemical weapons;
- U.S.-Soviet discussions and negotiations during the middle 1970s and early 1980s on banning chemical weapons;
- negotiations at the Geneva disarmament conference on a chemical weapons ban; Reagan Administration proposals for the development of a binary chemical weapons program in 1984; and
- the Hopkins-Anthony amendment to the Defense Appropriations Act for FY 1986 which halted the binary weapons proposal until the military included all unitary chemical munitions in their CSDP.

The military's difficult mission of reorganizing its methods for disposing of toxic waste and chemical weapons is one current of the emerging risk society noted by Ullrich Beck (1992). Other currents are the activities of public officials, private citizens and waste industry officials who are also redefining and seeking acceptable solutions for toxic waste accumulation in general. During the 1970s and the 1980s, incineration was developed and promoted as a technological solution for waste accumulation within this larger societal context. Incineration was presented as not merely a viable solution, but an elegant solution offering several promises, among which was the ability to both dispose of waste and generate electrical energy for commercial and municipal use.

These promises of disposal and energy generation seemed to reduce administrative and logistical problems related to collecting, dumping and storing wastes which businesses, factories, hospitals and municipalities have to manage. Incineration appeared to be an economically efficient, politically viable, safe and environmentally benign option. For municipalities, the possibility that the waste could be used as a fuel to generate electric power added another **economically rational** motive to the incineration option.

Thus, during the 1960s and 1970s, a number of arguments, proposals, plans and actual implementations enhanced the political and economic position of incineration as a waste disposal technology. The use of incineration for mass disposal of waste, though significant, was not widespread until the use of other options such as landfills and ocean dumping was challenged. The success of these challenges opened opportunities for economic growth and entrepreneurial development to the incineration industry. The incineration industry took advantage of this opening and marketed the technology extensively. Incinerators were sold to hospitals for the disposal of medical waste. Many cement kilns are now powered through incinerators. Small and large cities, urban municipalities, states, and the federal government began to use incineration for waste disposal, sometimes combining this with energy generating systems.

III

Waste Incineration Technology, Chemical Weapons Disposal and the Experience of Dread

Within the context of its mission to dispose of chemical weapons, the military provided the incineration industry an opportunity to promote incineration as the disposal solution. As the disposal program took form within the Department of Defense (DOD), incineration was emerging within society as a politically, economically and culturally powerful technology. Two important claims were typically made on the behalf of incineration technology.

- 1) Incineration would reduce the volume of solid waste thus making it easier to handle and decrease the amount of landfill space required.
- 2) The extremely high temperatures of the furnaces would transform toxic materials into benign waste.

A third claim in regard to chemical weapons specifically was that incineration was a currently **available** technology. The Army defined the purported availability of incineration as an **opportunity to choose**, thus avoiding the need to **develop** a disposal technology. Technological availability became significant in the Army's legitimization of incineration as the preferred option.

However, at the **point of choosing**, the Army had as extensive a base of experience and knowledge with chemical neutralization as they did with incineration.

The redesign work necessary to convert commercial waste incineration to military use was, at the point of choosing, as technologically involved as would have been the design and development of other disposal technologies such as chemical neutralization. The claim of "availability" made by the Army and the incineration industry was, on technological grounds, specious. Why, if the choice can not be justified on the basis of technological availability, was incineration chosen and other technologies rejected?

The military's decision to choose incineration as its preferred option emerged from a deep historical and cultural background. The availability of incineration as a tool is deeply embedded in the contextual background of human practice and consciousness. Humans have used burning throughout history to remove what was unwanted, unneeded or perceived as an obstruction to human purposes. As a technology specifically used for production of energy and disposal of waste, it is most strongly rooted at the beginnings of industrialization in the 1600s and 1700s. The choice of incineration to dispose of chemical weapons was an outcome of ancient cultural attitudes toward burning as a tool, merging with modern political, bureaucratic and economic interests.

These powerful forces began flowing into a single powerful stream of decision-making power in the historical moment of the late 1960s and the 1970s.

The Army's decision to choose incineration rather than develop other technologies seemed to be, on the surface, cost effective. It would be more accurate to say that the choice of incineration was bureaucratically expedient. In CSDP's ideal world where there are no cost overruns, no delays in implementation, no inclusion of reasonable costs external to the disposal project itself and no revisions of technology required by governmental regulations of stack emissions, the incineration program could appear cost effective. However, cost analysis in this ideal world has proven to be merely a starting point for the actual cost of incineration. One source of increased expense has been the typical cost overruns that occur in government projects. Additional costs have been identified as the incineration choice has been critiqued from points of view other than those of DOD and the CSDP--for example, those of the General Accounting Office, various Congressional committees and Citizen Advisory Commissions.

Through these critiques, questions about significant and long lasting ecological, health and economic costs for communities in which incinerators are to be located have been raised but not adequately considered by DOD. And, not even on the horizon of DOD's original analysis, are cost questions about quality of life. These quality of life questions are related to public recognition that incineration poses significant dangers to community safety and public health. For example, the probability of catastrophic events, such as explosions, is significant due to the complexity of incineration technology. The public is also coming to recognize that there are short and long-term health costs related not only to the release of agent itself but also to the production of toxic emissions such as dioxin. In addition, the public foresees the possibility of future use of the multiple incinerators at each site which would compound the safety, health and ecological costs.

Before an incinerator is built, deeply felt concerns about the health, safety and ecological costs to themselves and their communities can bring about a *pre-implementation anxiety* within the emotional experience of community members. Moreover, during its construction and subsequent operation, an incinerator complex provides fertile ground for the emergence of a sense of *dread* in the public consciousness. These two social conditions, pre-implementation anxiety in the short-run and a sense of dread in the long-run, fragment much of the experience of human life in these communities. The cost of this fragmentation to the local people's experience of their selves, their families and their communities does not appear as an issue on the original agenda of DOD and the CSDP. This cost does not appear as an issue for two reasons.

- 1) The organizational culture of the military emphasizes accomplishing missions. There is little room in this culture for allowing local community perspectives to influence the definition of missions or to influence the strategy and tactics for accomplishing them.
- 2) The social scientific knowledge of *normal accidents* (Perrow, 1984), *dread* and *trauma* (Erickson, 1994), all to be discussed later in this paper, were not part of the literature DOD and the CSDP had available to study, nor was it part of the general culture at the time the program was under design. The social science knowledge of normal accidents, dread and trauma is now well enough developed and documented, theoretically and empirically, to merit serious consideration in the choice of technology for the disposal of chemical weapons.

When health and safety costs to local communities have been raised by community members in public meetings their concerns have been cast aside as trivial by officials. (The risks of cancer associated with incineration were dismissed as based on "anecdotal data" and thus not worthy of consideration during a meeting in Kentucky in 1994, for example.) Where discussion of health and safety costs does appear in written documents, the concerns have been minimized by reference to scientific data that is itself inadequate to the questions being asked.

There was not, at the time of the choice of incineration nor has there been since, a thorough study comparing the costs--health, ecological and economic--and benefits of all disposal technologies. The research on health risks of incineration carried out and used by DOD and the CSDP is seriously flawed. And when a conceptual framework used for research is seriously flawed, the knowledge produced within that framework provides inadequate and misleading information as a guide for planning and action.

A loss of confidence and faith--an encompassing danger to our system of democratic governance--is much in the public consciousness today. The Army's exclusion of local concerns from the decision to implement incineration has embedded DOD's entire CSDP in the general context of loss of confidence and faith in democratic governance. The imposition of incineration on local communities is aggravating the erosion of citizen confidence in the ability of elected and appointed governmental officials to represent critical public interests. In this situation, the choice of a disposal technology has offered, from the beginning, an opportunity for **effective** public participation--a core value of our democratic system of governance. If elected representatives require the Army, DOD and the CSDP to implement effective local citizen participation in this situation, they will at the same time redirect, however slightly, the ship of state back to its course of democratic governance by reawakening public confidence and faith in democracy.

The emergence of dread (Erickson, 1994) with the threat of community fragmentation and the possibility of community trauma has altered the social context within which politics is now being conducted. The experience of dread is rooted in the threat of atomic war during the 1950s and early 1960s and in more contemporary events such as the near explosion of a nuclear power plant at Three Mile Island, Pennsylvania and the actual catastrophic explosions of a nuclear plant at Chernobyl, Russia and of a chemical works in Bhopal, India. The finer roots run to less dramatic, more commonplace circumstances. Many people have experienced local, less serious but more prevalent events such as train derailments spilling toxic materials, traffic accidents involving trucks carrying dangerous materials, explosions at chemical and fertilizer plants, oil tanker accidents that dump thousands of gallons of oil into ocean waters, rumors about specific unsafe practices at a factory where family members or friends work, etc.

Awareness of these types of events and the circumstances under which they have occurred have become part of common knowledge for people in modern industrial societies. Dread, sometimes tacit and unarticulated, sometimes vocal and articulated, is the awareness that complex technology has created ways of altering the earth's ecology that are adverse to human health. Whatever its immediate form, the presence of dread in modern societies is constant and deeply felt in public consciousness.

Whether the cultural references are historical or current, distant or local, dramatic or routine, dread is a common experience and is a powerful stake in societal decision making about complex disposal technologies for chemical weapons. Effective public participation in these decisions is critically important for democratic systems of governance. Government efforts to exclude effective public participation, to mitigate and divert public concern and to manage implementation of complex technologies through public relations campaigns are not only counterproductive for the mission of destroying chemical weapons, but are damaging to democracy itself.

IV

Direct Exclusion of Local Stakeholders from Decision Making

Carol Griffith Davies has examined the public participation component of the CSDP. Davies' model found that the component not only lacks mechanisms for incorporating effective participation, but actually contains mechanisms that **exclude** effective public participation. (This section and the following three sections rely heavily on Davies' 1995 doctoral dissertation.)

The first and most important manner of exclusion was choosing the disposal technology without public notice or debate. The choice was made entirely within DOD. The local communities did not even know about the possibility of a chemical weapons disposal program at the various sites, let alone have any input into the choice of technologies.

Subsequent to DOD's decision to choose incineration, public conversations about both the disposal program and the use of incineration as the preferred technology came through "scoping meetings" as required by Public Law 91-190 of the National Environmental Policy Act of 1969 (NEPA). NEPA established the scoping meetings as an official channel for public participation. Organizations proposing projects with the potential for having significant environmental impacts must prepare an Environmental Impact Statement (EIS) to which interested citizens (i.e., local stakeholders) are encouraged to voice their concerns. The meetings are held after the projects have undergone substantial planning. Findings from scoping meetings become part of public documents which are made available for public review, but the findings are not binding on the organization proposing the project, in this case, the Army.

As first conceived by NEPA, an EIS was to be long enough to discuss the potential impacts of a project comprehensively, but not so long or complex as to preclude understanding by any literate person. The framers of the EIS process envisioned a document of reasonable length. For example, Council on Environmental Quality (CEQ) regulations stipulate page limits on EISs. Section 1502.7 of CEQ regulations reads: "The text of final environmental impact statements...shall normally be less than 150 pages and for proposals of unusual scope or complexity shall normally be less than 300 pages" (Bregman 1992, p. 225). However, for a variety of reasons, EIS documents have grown in complexity, scope and length.

Preparation of EISs has now spawned a brand new growth industry, complete with professional conferences, journals and the potential for huge profits for professional contractors (e.g., national laboratories) who undertake EIS preparation for the government or for industry. Under this system, citizens who oppose a particular environmental project are at a distinct disadvantage. Considering that an EIS can take a year to prepare, typically costs upwards of a million dollars and is filled with highly technical information, a thirty to forty-five day comment period is scarcely enough time to read, much less digest and analyze, the typical manuscript(s). The Final

Programmatic Environmental Impact Statement (FPEIS) for the CSPD consists of three volumes containing approximately two thousand pages.

Professionalization of decision making has serious implications for citizens who wish to challenge a proposed agency action. Citizens recognize the importance of soliciting the knowledge and critiques of professional experts when issues and decisions are complex. The problem arises when the selection of experts is restricted to those designated by the entity whose project is being critiqued. In the case of chemical weapons disposal, citizens seeking to question the efficacy of the project have often had to contend with mountains of obfuscating quantitative data gathered, compiled and interpreted by experts in the direct employ of, or contracted by, DOD. When citizens began to question the disposal choice made by DOD, they also almost immediately sought out alternative professional perspectives. In fact, uncovering these alternative experts and their information has been one of the two strongest points of the case developed by citizens opposed to incineration. The second point has been the ability of "ordinary" citizens to educate themselves and come to adequate understandings of complex and technical issues over which the experts differ. This ability has been demonstrated time and again in public meetings, through participation in various official committees and task force study groups, in the publications of opposition groups and in the general discourse about the CSPD.

Citizen concerns are also weakened by the NEPA stipulation that the entity initiating an action be empowered to prepare the EIS without direct citizen participation. This authority gives the entity initiating the actions *powers of orchestration* by which issues to be examined in the EIS process are assembled, defined and presented. Orchestration sets the general interpretive framework within which the voices of stakeholders will be heard. Constructing the interpretive framework includes such actions as:

- determining **whose voices** will be heard;
- at **what time** during the process they will be heard;
- in **what context** the voices will be heard; and
- **how** the voices will be articulated in public documents and fora.

The power to orchestrate is an example of the second dimension of power in the research model used by Davies. This dimension of the model emphasizes various means by which power can be wielded behind the scenes even in the absence of observable conflict. One of the formidable means of exercising power that the model allows us to recognize is the creation of *barriers to participation*. The model also makes it possible for us to consider various ways in which potential issues are kept out of the politics of decision making. The practices which throw up barriers to participation constitute a *mobilization of bias* into the decision-making process. A bias is mobilized when

A set of predominant values, beliefs, rituals, and institutional procedures ("rules of the game")...operate systematically and consistently to the benefit of certain persons and groups at the expense of others...[thus placing]...beneficiaries ...in a preferred position to defend and promote their vested interests (Gaventa 1980, p. 14).

This is not a conspiracy theory. The emphasis is on social structure--rules, procedures and interpretations of law, etc.--and not on the personal motives of individual actors in that structure. The mobilization of bias is sustained primarily through what theorists term "non-decisions". According to Bachrach and Baratz (1970), "non-decision making" allows the concerns of some stakeholders to be

... suffocated before they are voiced, or kept covert; or killed before they gain access to the relevant decision-making arena; or, failing all of these things, maimed or destroyed in the decision-implementing stage of the policy process (Bachrach and Baratz 1970, p. 43).

The Army, with the aid of its contractors, did indeed engage in such power strategies to control the discourse and suppress the controversy surrounding the ultimate disposition of the weapons (Davies, 1995). These strategies included:

- A) agenda setting;
- B) control of information;
- C) mobilization of bias; and
- D) suppression of some issues in favor of the exploitation of other, less threatening ones.

A. AGENDA SETTING

The Army exerted power over the conversation that framed the discourse during the scoping process by controlling agenda items such as **what** was to be discussed at scoping meetings and the order of appearance of stakeholders. This power to orchestrate was evident at the public meetings for the Lexington Bluegrass Army Depot (LBAD) and in particular at the April 1991 meeting where the Army scheduled its presentation early in the evening and left local citizen groups no option but to speak to an empty house in the wee hours of the morning. The most important technique of agenda control for the CSDP, and the one most affecting local stakeholders, has been the definition of issues and non-issues. Opponents of incineration have had several issues that are of paramount concern:

- programmatic vs. site-specific studies;
- public safety;
- chronic short and long-term effects of low-level exposure to chemical agents and by-products of incineration (e.g., dioxins);
- future use of the incinerators;
- transportation of the stockpile to another site for destruction; and, most importantly
- alternative technologies.

For each of these concerns the Army defined the official boundaries within which the discussion could take place.

B. CONTROL OF INFORMATION

A method of information control employed by the Army in dealing with citizen opponents to the CSDP was to flood people with too much uninterpreted information. This technique has the advantage of maintaining the appearance of openness.

C. MOBILIZATION OF BIAS

A good example of mobilizing bias through boundary defining was the initial requirement that conversations about risk assessments be programmatic rather than site-specific. This single assessment makes sense given the interests from which the Army's stakes are derived. The Army's stakes are in the program risks as a whole and not in the risks at any one specific disposal site. Talking programmatically about conceptualization and measurement of risk narrows the conversation and glosses over the specific risks run by local populations. The glossing is accomplished by collapsing the higher risk sites into the lower risk sites. This process, in a sense, constructs a typical site for which the risks appear to fall within the Army's criteria of acceptable risk even though the risks for specific sites fall outside these criteria.

D. SUPPRESSION OF ISSUES

The typification of risk assessment and glossing of health and safety interests of stakeholders living adjacent to sites with risk situations greater than this typical assessment transforms local concerns into non-issues within the Army's definitions. Since the specific concerns of stakeholders at higher risk sites are, under the Army's rules, non-issues, they are defined as out of order in official conversations and public fora. In Richmond, Kentucky the glossing meant defining certain facts of critical importance to local citizens as non-issues in the programmatic assessments for the LBAD site. These "non-issues" include the location of a Middle School within the Immediate Response Zone (IRZ) of the stockpile storage site and the likely incinerator construction site, the dense population of the local area and the existence of Eastern Kentucky University with a student body of approximately 13,000 within six miles of the site.

A similar glossing was accomplished through the subordination of local concerns with public health and safety to DOD's concerns with cost and efficiency. The probability of long-term health effects from toxic stack emissions was written off the agenda with unrealistic burn efficiency claims and by dismissing questions about the cancer related effects of incinerator stack emissions as unimportant because they were based on anecdotal evidence.

Citizen concerns about the possibility of future adaptations of incinerator technology for uses beyond chemical weapons disposal were deflected by reference to a public law mandating dismantling of the technology once the chemical weapons are destroyed. This way of dealing with the issue allowed the agenda to ignore the fact that Congress was, at the time of this discussion, commissioning studies on the feasibility of continued use. In November 1989, Congress directed the Army to study the possibility of future use of the chemical weapons incinerators. The Army contracted the MITRE Corporation to conduct such a study. In the study's executive summary, MITRE concludes that there are advantages and disadvantages to future use (Goldfarb, et al., 1991). However, the body of the document is a blueprint of the possibilities for future use of these facilities.

For the military, the study suggests that the facilities could be used for non-stockpile items including range recovered munitions, chemically decontaminated ton containers, decontamination solutions and dunnage items accumulated during maintenance of the stockpile.

But more significantly, "If the demilitarization plants are not used by the Army after the chemical demilitarization program is completed, private hazardous waste disposal companies may be interested in purchasing the incinerators to provide additional disposal capacity to their business" (Goldfarb, et al. 1991, pp. 2-16)

The Department of the Army's Annual Status Report on the Disposal of Lethal Chemical Weapons and Materiel for FY 1995 (Army 1995, December 15) contains further indications that the possibilities for future use of Chemical Demilitarization Facilities are not only being kept open but are being actively sought. In section VIII, Program Reviews, the report states:

The Defense Acquisition Board reviewed the Program in March 1995 to assess the status of the Stockpile and Non-Stockpile and to make recommendations regarding Program management. The Board approved the Acquisition Program Baseline [i.e., the acquisition of equipment for incineration] and the action plan to resolve issues related to the three Program Imperatives.

The program imperatives are Environmental Imperatives, DOD Imperatives and Congressional Imperatives. Particular issues are related to each of the imperatives and the imperatives are broken down into specific goals, problems and actions. The problem the Congressional Imperatives articulates is that the "Program Manager has no flexibility in closing facilities." The action recommended is that "Integrated Process Teams will evaluate requirement and cost/benefit of closure relief." And the goal of the Congressional Imperatives is to "Obtain Congressional Relief." A rough translation of the Army's language is: the Army is planning to ask Congress to grant increased authority (i.e., flexibility) to the manager of the CSDP for making decisions about closing the disposal facilities once the stockpiles currently stored at the facilities have been incinerated. There is no further indication in this document of why this authority should be passed out of the hands of the Congress and into the hands of the Army. Whatever the Army's unrevealed reasons are for asking for "flexibility in closing facilities," the political effect for local citizens is the removal of yet another very important area of decision making from the hands of Congress and the placement of it in the hands of the special interests of DOD and the CSDP, where public interest has little effective influence.

That Congress thinks it is important to retain its authority in the most critical areas of decision making was illustrated by the Congressional action that came out of conversations between Congress and local citizens. Because of these conversations, the Congress required the National Research Council (NRC) to reconsider the Army's risk assessments. However, even with the Congressional directive for reassessment, the Army was able to circumvent the citizens' actual concerns about local (site-specific) health and safety risk issues of incineration by implementing a unique interpretation of reassessment. For the Army, reassessment was accomplished by adding new steps, called PHASE I and PHASE II, to the NEPA process.

PHASE I, under the Army's scheme, called for a review of the information available when the original decision was made to dispose on site rather than regionally. If new data validated the decision to dispose on site, the Army was then to proceed to PHASE II which is the implementation stage of the project. Essentially this second phase was merely an analysis of where the incinerator facility was to be placed on the site.

Within the Army's interpretation of reassessment, there was no inclusion in the review of a wider range of general and safety data about the risks of incineration nor was there any account taken of the unique features of the affected communities. For example, at the LBAD (Kentucky), the site chosen is a mile and a half from Clark Moores Middle School. This fact is one of the central concerns of the local opposition, but was not included in the risk reassessment. Thus, the Army's interpretation of reassessment flies in the face of local interests and also flies in the face of the intent of the Congressional directives which emerged from conversations with local citizens about their interests.

These attempts to circumvent citizen opposition reveal two fundamental, disturbing factors about the PHASE I and PHASE II process.

- 1) No citizens from the affected communities were to be involved in the review of data about the on-site decision, let alone be permitted to introduce new data about the risks of incineration technology.
- 2) The review of information took months, and in some cases years, to prepare and resulted in mountains of documents. The final collection of PHASE I documents alone fills an entire wall at the Oak Ridge National Laboratory.

At the request of citizens for more control and input into the program, the Army offered \$100,000 per site for independent studies. Five of the eight sites took advantage of the Army's offer: Aberdeen Proving Ground (Maryland); Lexington Bluegrass Army Depot (Kentucky); Pine Bluff Arsenal (Arkansas); Newport Army Ammunitions (Indiana); Umatilla Depot Activity (Oregon). Contracts were awarded through local universities and a team leader assembled each study group. The study groups hired their own "experts" in the areas of risk analyses, community surveys, long-term health issues, transportation, public safety and the ecologies. The conclusions reached by each of these studies are contained in an Appendix of the Final Programmatic Environmental Impact Statement (Army 1988, vol. 3, Appendix R).

The community study groups raised concerns about the Army's generic risk analysis, the limited research on the effects of nerve agent toxicity on humans, plant design and operation, monitoring, training of personnel, future use of the incinerators, socioeconomic impacts, cultural resources and ecological impacts of incinerator operations. They also expressed great hopes that many of these concerns would eventually be considered salient when the Army conducted the site specific studies promised earlier. All but one (Umatilla Depot Activity/Oregon) of these studies concluded that on-site incineration was not acceptable to these communities.

The Army's only action in regard to the studies was to place the recommendations in the appendix of the FPEIS without comment or acknowledging local stakeholders' concerns and interests (Army 1988, Vol. 3, Appendix R).

V

Mitigation of Citizen Interests

From the DOD's viewpoint, the best sort of acknowledgment and response to dissenting stakeholders' concerns is *mitigation*. In its use by DOD, which is based on Department of Energy models of public participation, (Feldman, 1988) mitigation means moderation of the public's accounts and claims in such a way that the citizens' positions are compromised enough to bring them inside the dominate framework. Specific mitigation strategies used by the CSDP include two major and two minor attempts to influence and manage public perceptions and interpretations of incineration as the preferred chemical weapons disposal technology.

The two minor attempts were "Project Victory" and the use of focus groups by the Batelle Corporation to manufacture a version of community opinion.

A. PROJECT VICTORY

Project Victory, a California-based educational company which specializes in conflict resolution, is an arm of the Committee for National Security, a Washington-based organization founded by retired military and government officials interested in arms control issues. Although the Army did not recruit Project Victory to do this work (The project had a Ford Foundation Grant.), they willingly supported the venture.

Project Victory's first attempts to develop consensus used a technique of *mediated dialogues* at the Aberdeen Proving Ground (APG). The program followed a 10-step process that constitutes, in Jacques Ellul's (1965) terms, a kind of horizontal propaganda through which citizens are led to discover the correct line which, in this case, is the *inevitability* of on-site incineration. Although touted as a value-neutral process, participants in the first mediated dialogue at APG reported a highly regulated, top-down approach to conflict resolution. Project Victory invited various community leaders to attend. But during the so-called mediated dialogue, only the "experts" invited by Project Victory could speak and no questions were permitted. Sessions broke up for informal discussion during which retired military officers mingled with guests and talked about the advantages of incineration with reminders about our treaty obligations and the fragile status of the stockpile. Opponents were not given time to openly disagree.

B. FOCUS GROUPS

The second minor attempt was the Batelle Corporation's use of focus groups in 1994 to develop summaries of community perceptions at all continental sites included in the stockpile program. These reports were part of a more encompassing public relations program which included public fora organized by DOD at local public sites. There has been no study of the effectiveness of the Batelle reports and they currently are being used to justify the public outreach efforts of the CSDP. CSDP personnel claimed, at a public meeting of the Citizens Advisory Commission in Richmond,

KY on February 6, 1996, that the reports showed that local opinion favored incineration. The claim left out the fact that the data also demonstrated significant public concern about potential health and safety effects of incineration and significant public opposition to the disposal plans. The Battelle report also strongly recommended that the Army involve local residents in the choice of technology and in program implementation decisions. (Battelle, p. viii; p. 67)

The **major** attempts at mitigation consisted of the creation of Intergovernmental Consultation and Consulting Boards (ICCBs) and later, the organization of Citizen Advisory Commissions (CACs).

C. ICCBs

In 1988 the Army created ICCBs as a direct result of the citizen response to the Army's announced incineration program (Ambrose, Record of Decision, CSDP, February 23, 1988: 7). The concept of ICCBs originated at the Oak Ridge National Laboratory and were considered a form of unconventional or alternative public participation. They were to have the following goals:

- 1) to **mitigate public skepticism** of the safety of disposal techniques;
- 2) to **ensure the effectiveness** of emergency management and other hazard reduction measures; and
- 3) to **heighten public confidence** in the Army's ability to manage the CSDP (Feldman, 1988).

In short, the goals of the boards were designed to legitimate program objectives to what was defined as a skeptical public. It is unclear in the statement of goals just what participation means, but it **is** clear that it does not mean that an opening into the decision-making process was to be provided for citizens with well-grounded and serious concerns.

According to Feldman (1988), who has written extensively on the subject, the ICCBs were to be "information exchanges." He wrote:

The ICCB will be a focused forum for the exchange of information among diverse interests to mitigate public concerns and **effectively** resolve potential conflicts concerning the disposal program. (Feldman 1988, p. 41, emphasis added).

Structurally, the ICCBs operated on two levels--local (site-specific ICCBs) and national (programmatic ICCB). The site-specific ICCBs were conceived as a clearinghouse for information about local operations. They were created at the eight continental sites and consisted of a five-member board with representatives from state and local governments and affected Indian tribes. On each local ICCB, the chair was an Army officer. In addition, an emergency planner, post commander and operations manager were included. The programmatic ICCB was comprised of a six-member board chaired by the Program Manager for Chemical Demilitarization, with representatives from the following.

- The Army
- The Department of Health and Human Services
- The Federal Emergency Management Agency
- The Environmental Protection Agency

- The National Academy of Sciences

The boards were instituted in a top-down structure from the outset and did not produce the desired consensus, outside of the various agencies represented, which its authors envisioned. The boards did not increase the Army's credibility, did not function as an effective vehicle for information exchange and did not mitigate the skepticism of citizens.

D. CACs

In response to continuing citizen demands for greater inclusion in the decision-making process, Congress legislated the establishment of Governor-appointed CACs to serve as conduits for citizens' concerns. Citizens at selected sites have been able to utilize CACs to come closer to authentic public participation than in any other type of forum. The CACs have held public meetings, developed risk assessment criteria and suggested ways to evaluate and monitor the disposal program. In contrast to the Army-funded study groups of the 1980s however, each CAC operates on a very small annual budget of \$25,000. Even the use of these small budgets has been severely restricted. Legal interpretations by DOD lawyers have ruled that CAC members cannot use funds to pay for travel to conduct research, attend relevant meetings and conferences nor for consultations with experts of their own choosing. The most absurd case in which this ruling was invoked was the denial of reimbursement to members for travel to an NRC-organized conference to which they had been invited by the Army.

The possibility of effective action by the CACs was frustrated by the short turn around time between the release of the National Research Council report on alternative technologies and the deadline for comments. CACs were given only two weeks to review and respond to a 200-page document which took a year and a half to prepare. When the CACs suggested that citizens have more say in determining the final disposition of the weapons, the Army responded by saying, "If the CACs are...given more authority, the Army would need more oversight in the selection process." (Tooele Transcript Bulletin, October 9, 1994) Thus, as the membership of some of the CACs began to move the process beyond simple mitigation of citizen interests, the reins were pulled tight and public participation was, once again, handicapped.

VI

Framing of Citizen Interpretation and Perception

All organized interests in political conflict use informational media such as newspapers, radio, television and newsletters to cast their opinions, decisions, actions, etc., in a favorable light. If political decisions in a society are to be democratic, then it is necessary for the society's information media to be open and equally available to all stakeholders who choose to participate in the decision. In addition to equal availability, the various points of view should also have more or less equal resources (i.e., money, technology, public relations staff, etc.) to effectively voice their points of view through the open media. Informational media have been fairly open to citizens opposed to the use of incineration as a chemical weapons disposal technology and opposition groups have been adept at utilizing their limited resources in effective ways. However, the seemingly endless abundance of resources available to the Army far outweighs that of the opposition groups. The Army's use of this abundance to increase the mass of information favorable to the Army's point of view that flows into the culture is a type of power similar to mitigation strategies. The incredible amount of information, even when it is incorrect or incomplete, that the Army is able to place into the public view significantly shapes the cultural framework within which citizens interpret the flow of events.

The Army's formidable ability to access public media and flood it with information has greatly affected public interpretations and perceptions. The manner in which the Army has represented the Chemical Stockpile Emergency Preparedness Program (CSEPP) to the public is one of the more misleading and potentially more dangerous currents of information in this flood. A second powerful and potentially misleading current is the CSDP Outreach Program. From the beginning of the CSDP, the Army has been able to use the media to emphasize the risk of stockpile storage and downplay the risks of incineration. In the initial public meetings and in the FPEIS, the risks of disposal were compared to the risks of storing the stockpile indefinitely and of course disposal in a safe manner was preferable to continued storage. However, the question the Army did not pose was whether or not incineration is the safest possible technology. In order to push its agenda of incineration as the technology of choice, the Army has distorted the issue of continued storage by creating the impression that deterioration of the stockpile is an imminent risk, although their own studies indicate that the stockpile will remain stable for at least another 100 years. In emphasizing the risk of storage, the Army has attempted to frame public perception in terms of the necessity of immediate disposal rather than in terms of the necessity to find the safest technology for that disposal. This kind of shaping of public perception has taken place in the mass media, at public meetings, in risk assessments, in CSEPP and in the CSDP Outreach Program.

The Army created CSEPP in 1988 in response to concerns expressed by citizens about the health and safety dangers inherent in both the storage and the **disposal** of chemical weapons. With

CSEPP, the Army has attempted to give the impression that the safety issue is being dealt with by a thorough program for emergency responses. However, upon close scrutiny, it is obvious that CSEPP is more a public relations effort than a realistic solution to the storage and disposal concerns of citizens.

The CSDP Outreach Program emerged near the end of 1995 in response to the Department of the Army Public Affairs judgment that

the variety of parties involved in the development and implementation of the CSDP will require a multi-faceted outreach plan which analyzes issues/concerns, provides for the information needs of each audience, and outlines meaningful interactions to support program activities (Army 1995, December, p. 4).

There are four official objectives of the outreach program:

- 1) Provide timely and accurate information about program activities to interested and affected publics;
- 2) Identify and discuss concerns and issues which affect the program;
- 3) Establish a dialogue and gain public involvement in the decision-making process on a national and local level;
- 4) Provide a consistent, one-voice approach to all stakeholders (Army 1995, December p. 6).

The meaning of these objectives is different for the citizen opposition groups than it is for the Army. The Army's outreach program takes for granted that since the decision to incinerate chemical weapons has been made, there is no need to discuss citizens' concerns about choice of technology nor gain public involvement in an irrevocable choice. From the opposition's standpoint, however, technology choice is **the** issue in which citizens need to be involved and the decision needs to be revoked because of the impact of incineration on public health and safety.

By excluding the opposition's central issue from the agenda, the CSDP Outreach Program becomes an expensive exercise in horizontal propaganda, the process by which citizens are led to discover what the Army defines as the "correct" message.

THE CHEMICAL STOCKPILE EMERGENCY PREPAREDNESS PROGRAM

CSEPP's plans call for the creation of zones for the purpose of emergency planning. The Emergency Planning Zone (EPZ) consists of two zones--an Immediate Response Zone (IRZ) with a radius of approximately 10 km from the storage area and proposed disposal site and a Protective Action Zone (PAZ) with a radius of approximately 25 km (Carnes et al, 1989). These demarcations are not static, however. Certain meteorological conditions (e.g., strong winds) could place communities in harm's way and make it necessary to include a PAZ community in the IRZ. As a further complication, the kind of response citizens are expected to make varies according to which zone they are in and the nature of the chemical incident which occurs. Possible responses range from taking no immediate action, to going inside a building until further notice, to going inside a building and sealing window and door cracks, to evacuating the areas most directly affected.

Aside from such informational complications, the actual protection afforded communities by even well executed and precisely carried out emergency plans is tenuous at best. Several serious

problems could emerge with chemical events. Among these is the time within which people can reasonably expect to be alerted in relation to the speed with which actual, fast-moving chemical event (i.e., explosions, normal accidents, release of agent, etc.) transpire. Even if people are efficiently alerted in line with the official plans, it seems to stretch believability beyond reasonableness to imagine that whole sections of densely populated sites can be quickly and safely evacuated.

But more to the point of misleading public perception, CSEPP scenarios have been developed for emergency response to potential **stockpile** events and not for potential **disposal** events. There has been no direct misrepresentation of this fact, but public discussion of emergency preparedness most often takes place in the context of the general dispute over incineration. In these discussions there is left hanging an unspoken implication that the emergency plans relevant to the storage of the chemical weapons stockpile are also relevant to the active incineration of the weapons. This is not the case. One important example of the inadequacy of using emergency plans based on possible stockpile events for possible disposal events is that the 10 km radius of the IRZ used for planning with the stockpile expands by several times when a chemical weapons incinerator is in place and operating. It is difficult to accept the possibility of an effective immediate response and to imagine an orderly evacuation in a territory several times larger than the 10 km radius during a catastrophic event (e.g., an explosion and fire related to the incineration of VX nerve agent).

Situations that might lead to a chemical event with the stockpile include earthquakes and other natural occurrences, accidents in moving and handling the weapons, airplanes crashing into the stockpile and so on. These situations are of a different order and would create emergencies of a different kind than events related to chemical weapons incinerators.

The potential for catastrophic events related to complex incineration technology are of much greater scope and of higher probability than those related to storage of the stockpile because of the **complexity** of the incineration technology. Charles Perrow (1984) argues that high-risk technologies (like chemical weapons incinerators) are **inherently** unstable and that accidents are inevitable. He refers to them as "system accidents." System accidents result, not from human error, as is often supposed, but rather from the complexity of the systems themselves. According to Perrow, systems that involve a transformation process--such as thermal destruction of chemical agents--are particularly prone to system accidents.

Because such occurrences are to be expected, he calls them "normal accidents." Perrow's research reveals that while it is difficult to adequately foresee and be prepared for failures in a single complex system, it is **impossible** to adequately foresee and be prepared for simultaneous failures in the multiple systems of tightly coupled complex technologies. Chemical weapons incinerators are a type of tightly coupled complex technology. Incineration of the weapons requires the linkage of five types of incinerators per site. Each of the five incinerators requires the simultaneous operation of its own set of tightly coupled complex systems and presents local communities with five separate sources of normal accidents. When the five incinerators are all operating simultaneously they constitute an even more complex tightly coupled system and thus compound the possibility for normal accidents to an even higher level.

The possible causes of catastrophic events involving the stockpile are much less complex, less likely to occur and more easily controlled than the possible causes of catastrophic events involving technologically complex incinerators.

THE CSDP OUTREACH PROGRAM

In 1994 the Army commissioned Science Applications International Corporation (SAIC) and Battelle Pacific Northwest Laboratories to study issues involved in the public opposition to the

disposal program. Using a methodology that combined interviews and focus groups, Battelle investigated the points of view of residents of stockpile communities. Incineration supporters, opponents and those who were not sure of their stand were included. The research also incorporated the views of officials in the stockpile disposal program. The research, published as Community Viewpoints of the Chemical Stockpile Disposal Program, confirmed that deep rifts exist between the Army's interpretations of the proper way to make decisions about chemical weapons disposal and the interpretations of citizens in opposition to incineration. In light of their findings, Battelle recommended that the Army facilitate **public participation** in the program in several significant areas, including choice and implementation of disposal technology, issues of liability, monitoring storage and disposal and conducting baseline community health surveys. The report states as a primary conclusion that

...the Army needs to consider both how local residents will be involved in **the process of choosing the technology** for destroying the stockpile...and how local residents will be involved in decisions about program implementation (Bradbury, et al. 1994, p. 67, emphasis added).

Other recommendations are that the Army improve its community communications efforts by establishing a local presence for the CSDP in order to disseminate and receive information from local residents and to engage in **dialogue** with the community (Bradbury, et al. 1994, pp. v - viii & p. 67).

In December of 1995 CSDP created an outreach program partially in response to the SAIC and Battelle research and recommendations. There were several changes in the Army's rhetorical stance in the draft document announcing this program. The changes include the Army's disavowal of the "Decide-Announce-Defend" communications model, a recognition that public dialogue and involvement in decision making are important and that the disposal programs are embedded in communities outside their gates. Reading the document one finds that **dialogue, involvement, openness and participation** are core concepts claimed by the outreach program. These are also core concepts claimed by the opposition. However, when one reads the meaning of these concepts in the context of the rhetoric used by the CSDP on the one hand and the opposition on the other, fundamental differences in meaning become evident. For example, the CSDP outreach document talks about stakeholders as **audiences** while the opposition's documents and public statements emphasize stakeholders as **citizens**. The stakeholder-as-audience model places the interaction between the opposition and the Army into a drama framework within which the Army defines the opposition as having information needs rather than having new knowledge (e.g. about alternative technologies) or significant interpretations (e.g. the dangers of dioxin for community health). Stakeholders as audience merely need to know more about the play as it is. When stakeholders make claims of having new knowledge or significant interpretations, their claims are set aside by the Army and reinterpreted as irrelevant to the plot and thus problems of attitude and belief. There is no possibility for the script to be rewritten.

Capturing the core concepts shared with the opposition, and framing them in a dramaturgical manner with public outreach that merely addresses informational needs does nothing to bridge the rift between citizens and the CSDP. The dramaturgical frame maintains the exclusion of the opposition from effective participation in the decisions that set the fundamental course for the CSDP and the stockpile communities. This construction of public outreach skirts around the conclusions of the Battelle research and the spirit of its recommendations.

Local stakeholders generally recognize the value and necessity of the emergency plans and are supportive of efforts to make the plans for the stockpile effective. However, the Army has encouraged the public to develop the impression that preparedness programs which are adequate for storage will also be adequate for chemical weapons disposal. This is another expensive attempt to develop compliance by fostering false interpretations and perceptions rather than reducing actual

risks. The safety issue is central to the local stakeholders' concerns. The attempt to develop compliance constitutes an effort to control and not to negotiate with local stakeholders about technology choice and program implementation as recommended in the Battelle report. Submerging these recommendations in an outreach program that establishes information centers at all the sites is an expensive effort to exclude effective citizen participation and mitigate their legitimate concerns.

These are not compromise solutions to the conflict between the interests of the Army and the interests of the public, and have not been reached through transactions between them. The solution of developing compliance and mitigation has been imposed in a manner that brings local concerns into the Army's framework and pushes its plans to utilize incineration technology toward completion. No matter how effective the emergency plans might be for non-incineration catastrophic events, nor how successful the outreach program is in its public relations efforts, incineration remains the **Army's** technology of choice. Because of that choice, the probability of catastrophic events and their associated risks for local stakeholders are increased. Local stakeholders have no way to enter into a discussion of those risks because the Army denies the risks of incineration and has the resources to make its point of view dominant.

VII

Defining Issues Off The Agenda

Several issues central to the conflict between the Army's interests and the public's interests, and important to citizens, have been removed from the agenda used by DOD to structure discussion. The most significant issue to be defined off the agenda has been the study of disposal technologies other than incineration. The Army has made various attempts to create the perception that incineration is the only possible **rational** choice and therefore **inevitable**. This move reflects the third dimension of power in the model discussed by Lukes (1974) and Gaventa (1980) and draws attention to attempts to shape public perceptions of conflictive situations. According to this view of political power, it is not necessary that people agree with or support a decision or action. What matters is that people go along with or accept the decision or action. Power holders often attempt to gain acceptance by using legitimization stories and myths with which local citizens are familiar. If familiar legitimations and myths do not exist or are inadequate, new ones are created. The Army has created the myth that incineration is the best technology and thus inevitable.

The Army's exclusion of the study of alternative technologies has become the driving force of current dissent and is the lynch pin coupling this specific dissent to the general lack of confidence in the political system. In making plans to impose technologically complex incinerators on local communities without public input, DOD miscalculated the extent to which the public would become aware of the health and safety risks inherent in the technology. Additionally, DOD had no clue that their plans to incinerate objectified a deep sense of dread in the experience of the public and had no understanding of the ability of citizens to recognize that incineration would **intensify** their experience of dread. Within the context of this experience of dread, citizens' opposition to incineration is an effort to stop the Army from imposing upon them a situation likely to produce conditions which Erickson describes as trauma. The Army's choice of the technology of incineration, by increasing a community's sense of dread, sets the community's citizens up for the probability of moving into trauma once the incinerator is constructed and in use.

Long-term community trauma would emerge as the adults of today begin to cope with increased rates of cancer and other debilitating health conditions among themselves and their children. Long-term community trauma would continue into the children's adult life as they learn to contend with the same health problems among themselves and their own families, plus the increased health problems their parents develop in their elder years. Short-term and sporadic incidents of trauma will emerge as minor normal accidents occur, warning systems are activated and emergency response plans are put into operation. And should a catastrophic event occur with the incinerator, which would be a normal accident, the extent of trauma would be devastating and far reaching.

The inability of the Army to recognize or, even worse, their unwillingness to acknowledge these social facts (the extent of public awareness, the depth of dread and the role of incineration technology in setting trauma in motion) along with their lack of an authentic response to local realities has contributed to an erosion of the Army's credibility. The Army's eroding credibility has, in turn, contributed to the wider erosion of political legitimacy that is currently troubling many elected and appointed officials.

VIII

Beginning Again by Incorporating Local Stakeholders in Decision Making

Public relations campaigns aimed at gaining public acceptance through mitigation and manipulation of citizen's valid interpretations and perceptions are counter productive. These kinds of efforts, by their nature, touch only the surface of issues about which citizens are deeply aware and concerned. Officials have de-legitimated their own authority, even though they have maintained other sources of power, by diverting public discussion from the deep issues of greatest concern and by limiting public participation to the shallow level of opinions. These de-legitimizations of authority add to what seems to be a general distrust of governance and decision making. As this general distrust grows more pervasive, it makes the work of public and elected officials much more difficult. Finally, the continued use of mitigation techniques to manipulate interpretations and perceptions excludes from the democratic system of governance its most important constituency--the citizens who have deeply felt concerns and knowledge and whose day to day lives are directly affected by the decisions. These concerns and this knowledge are of critical importance for discovering and inventing effective, politically just and morally acceptable solutions to problems of modern society including the toxic conditions we have created.

The growing awareness in public consciousness of the extent of industrial society's "health risks and hazards debt," the emergence of dread as a common experience and the emphasis on ecological morality are not confined to particular geographical regions or specific political constituencies. The apprehension that is emerging in public consciousness is, in fact, widespread. As Erickson points out,

The point is not that a particular region is now spoiled but that [in the public mind] the whole world has been revealed as a place of danger and numbing uncertainty...

And the fact that waves of people share a common dread not only in such well-known places as Love Canal and Three Mile Island, Chernobyl and Bhopal but also in lesser-known disaster sites like Centralia (Pennsylvania), Legler (New Jersey), Times Beach (Missouri), and Woburn (Massachusetts)--never mind Grassy Narrows and East Swallow--should tell us that something important may be happening here...

It ranks, at the very least, as another 'whispery omen of a hovering future.'
(Erickson 1994, p. 157)

The dilemmas evident in the history of chemical weapons incineration objectify the recurring human problem of matching means to ends within the frameworks of our ethical values and our pragmatic norms. The accumulation of toxic hazards is but one of the dangerous legacies that we must deal with in our ethical and pragmatic decision-making processes. The more effectively

stakeholders can participate in these decisions, the stronger will be our frameworks and the more valid will be the actions we take.

Our frameworks must be well enough formed to enable us to deal effectively with many tough and challenging questions. What means of dealing with toxic hazards are available for us to consider? What do we know of the risks involved with various technologies? What ends are we aiming for? What do we wish to retain for ourselves and our communities in reaching these ends and what are we willing to give up? How do various technologies and specific economic and political interests relate to these ends? What do we do when we decide not to run the risks involved with an incineration technology chosen merely for the sake of expediency or because elected officials, bureaucratic office holders and a narrow range of experts have committed themselves and their reputations to it?

Our toxic legacies are not only complex technical problems, they are also complex political and economic problems and more importantly, complex moral problems. If whatever governing political systems we continue to invent and re-invent are to operate without coercion, whether by force or manipulation, the systems must have **legitimacy**. That is, the members of society must give their willing consent for decisions affecting all members.

The ways in which the various levels of our government now deal with our toxic legacies constitute one of the currents eroding legitimacy. Unless citizens find ways to re-channel these eroding currents, we will continue to be carried toward more authoritarian politics. If our system of governance is to be democratic then it is necessary to find or invent structures which facilitate **effective public participation in decision making**.

For public participation to be effective we must be able to:

- critique scientific and bureaucratic decisions at important junctures;
- educate ourselves on technical matters and educate our officials on local concerns; and
- draw upon the full range of our general experience and cultural knowledge and apply this wisdom ethically and pragmatically to our decision-making processes.

The recommendations for citizen participation in the Battelle report offer an opening through which the CSDP and the citizen opposition can pass and together initiate the construction of frameworks for dealing with critical issues in general as well as those specifically arising from chemical waste and toxic waste. Legacies such as those faced by the CSDP and the stockpile communities are not the province of a few special interests. These legacies and others of vastly different natures have become the province of the whole of humanity. Their resolution in mutually acceptable ways requires the greatest range of experience, knowledge and interpretation we can possibly muster for the task. Inclusion of all points of view is necessary in order to generate that great range of experience, knowledge and interpretation.

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